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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,871	12/08/2003	Jobst U. Gellert	10984-1050	1170

1059 7590 09/22/2004

BERESKIN AND PARR
SCOTIA PLAZA
40 KING STREET WEST-SUITE 4000 BOX 401
TORONTO, ON M5H 3Y2
CANADA

EXAMINER	
MCHENRY, KEVIN L	

ART UNIT	PAPER NUMBER
1725	

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/728,871	GELLERT ET AL.	
	Examiner	Art Unit	
	Kevin L. McHenry	1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-12 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-12 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 08 December 2003 is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 112 (see page 11, line 4). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-3, 5, 7-9, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gellert (U.S.P. 4,648,546) in view of Juliano et al. (U.S.P. 5,973,296).

Gellert teaches an injection molding apparatus that includes a melt distribution

manifold with at least one melt passage and injection nozzles with melt bores for conveying melt to mold cavities that are in communication with the nozzles. The manifold includes a wire type heater to provide heat to the melt passage of the manifold. (See U.S.P. 4,648,546; column 1, lines 7-12; column 3, lines 33-39; column 4, lines 27-38).

Gellert does not teach a film heater on the outside surface of the manifold or its characteristics.

Juliano et al. teaches a film heater for an injection mold nozzle. Juliano et al. review prior art wire heaters, note their disadvantages, and propose that their film heater is advantageous because it provides more efficient external heating, it has better temperature control, it provides increased flexibility for heater element design, and allows integration of sensors, such as thermocouples, in the heating element. The heater includes a dielectric layer and an outer glaze layer. Juliano et al. teach that the film heater can be disposed on the inside surface or outside surface of the nozzle. (See U.S.P. 5,973,296; column 1, lines 44-67; column 2, lines 1-8; column 3, lines 54-67; column 4, lines 1-9; column 5, lines 28-31; column 6, lines 37-63; column 7, lines 15-23).

It would have been obvious to one of ordinary skill in the art at the time that the applicant's invention was made to have modified the apparatus of Gellert by the teachings of Juliano et al. One would have been motivated to replace the wire heater of Gellert with the film heater of Juliano et al. in order to provide more efficient external heating, provide better temperature control, provide increased flexibility for heater element design, and allow integration of sensors, such as thermocouples, in the heating element, as taught by Juliano et al.

4. Claims 4, 6, 10, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gellert (U.S.P. 4,648,546) in view of Juliano et al. (U.S.P. 5,973,296) as applied to claims 1-3, 5, 7-9, and 11 above, and further in view of Godwin et al. (U.S.P. 6,305,923).

The former references teach the apparatus noted above in section 3. However, these references do not teach a wire heater with the film heater.

Godwin et al. teach a molding system with a film heater. Godwin et al. also teach that an additional wire heater can be used at the exit of the manifold, where the manifold meets the nozzle. (See U.S.P. 6,305,923; Figure 20; column 12, lines 46-50).

It would have been obvious to one of ordinary skill in the art at the time that the applicant's invention was made to have modified the apparatus described above by the teachings of Godwin et al. One would have been motivated to provide an additional wire heater at the exit of the manifold to insure that melt leaving the manifold and entering the nozzle has not cooled undesirably and is at the proper temperature for injection into mold cavities.

5. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gellert (U.S.P. 4,648,546) in view of Godwin et al. (U.S.P. 6,305,923) and Juliano et al. (U.S.P. 5,973,296).

Gellert teaches an injection molding apparatus that includes a melt distribution manifold with at least one melt passage and injection nozzles with melt bores for conveying melt to mold cavities that are in communication with the nozzles. The manifold includes a wire type heater to provide heat to the melt passage of the manifold.

(See U.S.P. 4,648,546; column 1, lines 7-12; column 3, lines 33-39; column 4, lines 27-38).

Gellert does not teach a film heater on the outside surface of the manifold or its characteristics.

Godwin et al. teach a molding system with a film heater that is composed of an electrically insulative film, a heater layer, and a thermally insulative film. This reference teaches that the heater provides heat in a manner that is more efficient and provides and appropriate amount of heat. Godwin et al. teach that the heater may include thermocouples. Godwin et al. also teach that an additional wire heater can be used at the exit of the manifold, where the manifold meets the nozzle. (See U.S.P. 6,305,923; Figure 20; column 2, lines 44-53; column 7, lines 1-5; column 9, lines 41-56; column 10, lines 21-22; column 12, lines 46-50).

Juliano et al. teaches a film heater for an injection mold nozzle. Juliano et al. review prior art wire heaters, note their disadvantages, and propose that their film heater is advantageous because it provides more efficient external heating, it has better temperature control, it provides increased flexibility for heater element design, and allows integration of sensors, such as thermocouples, in the heating element. The heater includes a dielectric layer and an outer glaze layer. Juliano et al. teach that the film heater can be disposed on the inside surface or outside surface of the nozzle. (See U.S.P. 5,973,296; column 1, lines 44-67; column 2, lines 1-8; column 3, lines 54-67; column 4, lines 1-9; column 5, lines 28-31; column 6, lines 37-63; column 7, lines 15-23).

It would have been obvious to one of ordinary skill in the art at the time that the

applicant's invention was made to have modified the apparatus of Gellert by the teachings of Godwin et al. and Juliano et al. One would have been motivated to use the film heater of Godwin et al. to provide a means that provides heat in a manner that is more efficient and provides and appropriate amount of heat, as taught by Godwin et al. It would have been obvious to one of ordinary skill to locate the heater of Godwin et al. on the exterior surface of the area to be heated, as taught by Juliano et al., as opposed to the interior surface of the area to be heated, as taught by Godwin et al., in light of the art recognized functional equivalence of interior and exterior film heater location (i.e. both are suitable location for a film heater to provide heat to a melt channel).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Gellert et al. (U.S.P. 6,405,785), Sachs et al. (U.S.P. 5,775,402), Gellert (U.S.P. 4,355,460), Devellian et al. (U.S.P. 4,500,279), and Adams et al. (U.S.P. 6,460,598) are cited of interest for illustrating the state of the art in heater elements.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin L. McHenry whose telephone number is (571) 272-1181. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G. Dunn can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kevin McHenry

KILEY S. STONER
PRIMARY EXAMINER
9/20/04